DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
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CENWD-RBT

14 DEC 2012

MEMORANDUM FOR Commander, Kansas City District

SUBJECT: Review Plan (RP) Approval for Blacksnake Creek Definite Project Report, St. Joseph, Missouri - Section 205 of the Flood Control Act of 1948

1. References:

a. RP for Blacksnake Creek Definite Project Report (DPR), St. Joseph, Missouri, 4 December 2012 (Encl).

b. EC 1165-2-209 Change 1, Civil Works Review Policy, 31 January 2012.

2. Reference 1.a. above has been prepared in accordance with reference 1.b. above.

3. The RP has been coordinated with the Business Technical Division, Northwestern Division, U.S. Army Corps of Engineers, which is the lead office and point of contact to execute this plan. The Review Plan includes District Quality Control and Agency Technical Review and has been coordinated with Business Technical Division as the Review Management Office (RMO). The RMO Point of Contact is Steve Bredthauer, 503-808-4053.

4. I hereby approve this RP, which is subject to change as circumstances require, consistent with the study development process and the Project Management Business Process. Subsequent revisions to this RP or its execution will require written approval from this office.

5. For further information, please contact Mr. Steve Bredthauer at (503) 808-4053.

Encl

ANTHONY C. FUNKHOUSER, P.E.
COL, EN
Commanding

CF: CENWD-PDD

REVIEW PLAN

USING THE NWD MODEL REVIEW PLAN

for

Continuing Authorities Program

Section 103, 205 and projects directed by guidance to use CAP procedures

Blacksnake Creek Definite Project Report (DPR), St. Joseph, Missouri
Section 205 of the Flood Control Act of 1948

Kansas City District

4 December 2012

MSC Approval Date: Pending
Last Revision Date: None

US Army Corps
of Engineers ®

REVIEW PLAN
USING THE NWD MODEL REVIEW PLAN

Blacksnake Creek DPR, St. Joseph, Missouri
Section 205 of the Flood Control Act of 1948

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Blacksnake Creek Definite Project Report (DPR), St. Joseph, Missouri, Section 205 project.

Section 205 of the Flood Control Act of 1948, as amended, authorizes USACE to study, design and construct flood risk management projects. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F Amendment #2.

b. Applicability. This review plan is based on the NWD Model Review Plan for Section 103, 205 and authorities directed by guidance to follow CAP procedures, which is applicable to projects that do not require an EIS.

c. References

(1) Continuing Authority Program Planning Process Improvements, Director of Civil Works' Policy Memorandum #1, 19 Jan 2011
(2) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(3) EC 1105-2-412, Model Certification, 31 May 2005
(4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
(6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for Section *205* is the Northwestern Division (NWD). NWD will coordinate and approve the review plan and manage the Agency Technical Review (ATR). If Type I Independent External Peer Review (IEPR) will be performed, NWD will coordinate with the IEPR effort with the appropriate PCX, which will administer the Type I IEPR. Kansas City District will post the approved review plan on its public website and provide the appropriate NWD District Support Planner with the link. A copy of the approved review plan (and any updates) will be provided to *the FRM-PCX* to keep the PCX apprised of requirements and review schedules.

3. PROJECT INFORMATION

a. Decision Document. The Blacksnake Creek DPR decision document will be prepared in accordance with ER 1105-2-100, Appendix F Amendment #2. The approval level of the decision document (if

policy compliant) is NWD. An Environmental Assessment (EA) will be prepared along with the decision document.

b. **Study/Project Description.** Blacksnake Creek is a small left bank tributary of the Missouri River, located in Andrew and Buchanan Counties, Missouri. The Creek enters the city of St. Joseph (City), about 4.3 miles above its mouth and flows south-southwest through the City to join the Missouri River. The watershed has a total drainage area of 8.2 square miles and has an elliptical shape about 6 miles long and 2 miles wide. The channel in the lower 3.2 square miles of the basin is enclosed in a combined sewer of varying size up to 17 feet in diameter. The upper 5 square miles of the basin above the combined sewer entrance at Karnes Road is drained by open channel. During intense storm events (greater than or equal to a 10-year frequency), the Karnes Road combined sewer inlet capacity is exceeded. When this occurs, flow from Blacksnake Creek overtops Karnes Road and flows south via streets and yards to flood residential, commercial and industrial properties within the City. Flash flooding within the Blacksnake Creek watershed affects approximately 200 residential, commercial, and industrial properties.

Initial plan formulation included the development and engineering analysis review of four dry detention plans for the area north of Karnes Road and East of St. Joseph Avenue. These alternatives were varying configurations of the following features:

- Raising Karnes Road to act as a detention dam, with associated drainage, outlet structure, and contributing drainage structures
- Construction of a levee on the west side of the detention basin from Karnes Road to Savannah Road to protect existing residences and structures adjacent to the basin
- Construction of a floodwall on the east bank of Blacksnake Creek north of Savannah Road
- Site grading, utility/sewer relocations, and other appurtenances
- Acquisition and buyout of properties.

Estimating assumptions were made for structures (outlet, drainage, levee, etc.) and geotechnical and civil/utilities modifications and relocations. Primary material quantities, labor, land acquisitions, and design cost estimates were used to develop a cost estimate for each alternative. Based on an initial screening of these alternatives and discussions with the City, three additional alternatives were developed to eliminate the need for levees, dams, and flood walls. These alternatives would use the natural topography to and a lower pool height to eliminate the Karnes Road Detention dam, levee, and floodwalls that were included in the previous alternatives.

In addition, non-structural measures were considered to determine if a non-structural alternative could be formulated. The non-structural measures considered included, structure acquisition and demolition/relocation, structure elevation, flood proofing, localized flood reduction measures, flood emergency preparedness system, and floodplain regulation. While an implementable fully non-structural alternative did not emerge, some actions were identified for potential future action in the draft Floodplain Management Plan that was prepared for the City as part of the DPR.

The results of the final plan screening were shared with the sponsor. All alternatives had a project cost above the Section 205 cost threshold, however, the sponsor has indicated a willingness to pay the cost above the cost share limit. Total project costs are estimated in the range of $17M.

Review History: A preliminary ATR was conducted by Tulsa District on the plan screening results in the fall of 2011. Included with the preliminary ATR review was a review by the Cost DX of the screening level project cost estimates and the cost risk analysis for the tentatively selected plan. Comments from these initial reviews remain open and are being considered as the DPR is being completed.

Completion of the final study elements are underway and include the completion of the engineering analysis (geotechnical and site/civil), revised cost estimate, real estate plan, and the environmental assessment. The completion of these activities is pending a final decision on disposal site for excavated material. It is not anticipated that the estimated total project cost will increase with these final decisions.

It is anticipated that a waiver to the IEPR requirement will be requested. In addition, a waiver will be requested to allow buy-up by the sponsor for the costs over the section 205 cost limits. These waivers will require approval through HQ and OASA (CW) prior to approval of the decision document. Policy waiver requests will be prepared for submittal by the MSC as soon as the final supporting documentation is complete and has been through the appropriate District Quality Control (DQC) review.

c. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC) and ATR, similar to any products developed by USACE. No in-kind products are anticipated for the DPR.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC prior to ATR. The home district shall manage DQC.

5. AGENCY TECHNICAL REVIEW (ATR)

One ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). However, additional ATRs may be performed if deemed warranted. ATR is overseen by NWD and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel. The ATR team lead will be from outside of NWD.

a. **Required ATR Team Expertise.** The ATR review team requires experienced reviewers in the appropriate disciplines. The project is not overly complex from a planning standpoint. District Quality Review and interim ATR reviews have been conducted previously.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional preferably with experience in preparing Section 205 decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc). The ATR Lead MUST be from outside *the Kansas City District.*

Planning	The Planning reviewer should be a senior water resources planner with experience in plan formulation for small flood risk management projects and be familiar with continuing authorities guidance and processed.
Economics	Economics reviewer should have experience with socioeconomic studies for flood risk management studies.
Environmental Resources	The environmental resources reviewer should have a strong understanding of civil works projects and NEPA compliance. Additionally, the reviewer should have an understanding of HEP/HSI models to complete a review of the environmental benefits model used for this study.
Hydraulic Engineering	The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of the application of detention/retention basins and/or computer modeling techniques that have been used to develop the hydrology and hydraulic models (HEC-HMS and HEC-RAS).
Geotechnical Engineering	Team member will have significant experience in levee & dam foundation design analysis. This is a critical ATR team member, and a certified professional engineer is recommended with a minimum of 10 years experience.
Civil Engineering	The civil engineer reviewer will have a thorough understanding of civil, utilities and site aspects of environmental restoration design.
Cost Engineering	Cost DX Staff or Cost DX Pre-Certified Professional with experience preparing cost estimates for small flood risk management projects such as detention basins.
Real Estate	Team member should be familiar with necessary components in a real estate plan for a flood risk management project involving structural and nonstructural approaches. An understanding of the difference of a gross appraisal from screening methods is necessary.

b. **Charge Document.** The district will prepare the charge document which clearly identifies the review requirements. This document must be completed prior to requesting an ATR team.

c. **Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-2-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and

magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

  For Section 103 and 205 decision documents prepared under the NWD Model Review Plan, Type I IEPR may or may not be required.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

  For Section 103 and 205 decision documents prepared under the model National Programmatic Review Plan, Type II IEPR may or may not be anticipated to be required in the design and implementation phase. The decision on whether Type II IEPR is required will be verified and documented in the review plan prepared for the design and implementation phase of the project.

a. **Decision on IEPR.** It is the policy of USACE that Section 205 project decision documents should undergo Type I IEPR unless ALL of the following criteria are met:

- Federal action is not justified by life safety or failure of the project would not pose a significant threat to human life;
- Life safety consequences and risk of non-performance of a project are not greater than under existing conditions;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an EIS;
- The project/study is not likely to involve significant public dispute as to the size, nature, or effects of the project;

- The project/study is not likely to involve significant public dispute as to the economic or environmental cost or benefit of the project;
- The information in the decision document or anticipated project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices;
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design construction schedule; and
- There are no other circumstances where the Chief of Engineers or Director of Civil Works determines Type I IEPR is warranted.

Further, if Type I IEPR will not be performed:

- Risks of non-performance and residual flooding must be fully disclosed in the decision document and in a public forum prior to final approval of the decision document;
- The non-Federal sponsor must develop a Floodplain Management Plan, including a risk management plan and flood response plan (and evacuation plan if appropriate for the conditions), during the Feasibility phase; and
- The non-Federal sponsor must explicitly acknowledge the risks and responsibilities in writing in a letter or other document (such as the Floodplain Management Plan) submitted to the Corps of Engineers along with the final decision document.

The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the NWD Commander. Additional factors the NWD Commander might consider in deciding if an exclusion is appropriate include, but are not limited to: Hydrograph / period of flooding, warning time, depth of flooding, velocity of flooding, nature of area protected, and population protected.

Type I IEPR exclusion is anticipated for this project. Documentation of the above criteria will be provided upon completion and district level review of the engineering analysis and provided in the form of a waiver request. For the anticipated Tentatively Selected Plan (TSP), the risk and consequences of a failure to perform will be equal to or less than the without project condition. The TSP will not require the construction of a levee, dam or a feature that will increase risk.

Type II IEPR is not anticipated during the design and implementation phase based on the criteria for conducting Type II IEPR described in Paragraph 2 of Appendix E of EC 1165-2-209. Documentation for the waiver to this requirement will be presented upon completion of the engineering analysis and will address each of the following criteria:

- if the Federal action is justified by life safety or
- if failure of the project would pose a significant threat to human life;
- if the project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices;
- if the project design requires redundancy, resiliency, and/or robustness; and/or

- if the project has unique construction sequencing or a reduced or overlapping design construction schedule.

b. Products to Undergo Type I IEPR. Not-Applicable

c. Required Type I IEPR Panel Expertise. Not-Applicable

d. Documentation of Type I IEPR. Not-Applicable

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the NWD Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

8. COST ENGINEERING TECHNICAL CENTER OF EXPERTISE (TCX) REVIEW AND CERTIFICATION

For CAP projects, ATR of the costs may be conducted by pre-certified district cost personnel within the region or by the Walla Walla Cost TCX. The pre-certified list of cost personnel has been established and is maintained by the Cost TCX. The cost ATR member will coordinate with the Cost TCX for execution of cost ATR and cost certification. The Cost TCX will be responsible for final cost certification and may be delegated at the discretion of the Cost TCX.

9. MODEL CERTIFICATION AND APPROVAL

Approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. ATR will be used to ensure that models and analyses are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports.

a. EC 1105-2-412. This EC does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

b. **Planning Models.** The following model is anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	
HEC-FDA 1.2.4 (Flood Damage Analysis)	The Hydrologic Engineering Center's Flood Damage Reduction Analysis (HEC-FDA) program provides the capability for integrated hydrologic engineering and economic analysis for formulating and evaluating flood risk management plans using risk-based analysis methods. The program has been used to evaluate and compare the future without- and with-project plans aid in the selection of a recommended plan to manage flood risk.	Certified

c. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document: NA

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-HMS (Version 3.3)	The HEC-HMS model was used to simulate the existing conditions run-off hydrographs resulting from rainfalls corresponding to the 1-, 2-, 5-, 10-, 25-, 50-, 100-, 250- and 500-year return periods.	HH&C CoP Preferred
HEC-RAS (Version 4.0)	Hydraulic modeling was developed using HEC-RAS 4.0 steady state option. The model was used to develop water surface profiles for the 1-, 2-, 5-, 10-, 25-, 50-, 100-, 250-, and 500 – year storm events. Model parameters were developed using ArcGIS, HEC-GeoRAS in conjunction with GIS data; and, where applicable, manual input.	HH&C CoP Preferred
MCACES/MII for Cost Estimating - Current Version	The Corps requires software system for cost estimating.	Approved

10. REVIEW SCHEDULES AND COSTS

c. **ATR Schedule and Cost.** It is anticipated that completion of the ATR, including the District responses to ATR comments, will cost approximately $15K. This includes the review and responses to the interim and future ATR comments. Because an interim ATR and Cost DX Review were completed, it is anticipated that a final ATR will be relatively streamlined and will result in very few substantive comments. However, the cost will be relatively significant due to the number of existing comments that the ATR team will need to back check with the final ATR review. **The draft DPR and associated appendices will be ready for final ATR review by 1 March 2013. The review will take approximately 30 days to complete. We anticipate conduct of the AFB in April 2013, with Draft Report ATR in May and DPR Approval in June July 2013.** It is recommended that the original ATR team complete the review process, even though there was significant delay between the review comments and completion of the draft DPR.

d. Type I IEPR Schedule and Cost. Not applicable.

11. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. A public meeting was held early in the plan formulation process. The City will present results of the screening process to the City Council and request approval for a public meeting once the Draft DPR and EA are completed. The draft report, details and results of the plan formulation, as well as the draft floodplain management plan will be shared and the public will be afforded an opportunity to review and comment. The ATR team will be provided copies of public and agency comments.

12. REVIEW PLAN APPROVAL AND UPDATES

The NWD Commander is responsible for approving this review plan and ensuring that use of the NWD Model Review Plan is appropriate for the specific project covered by the plan. The review plan is a living document and may change as the study progresses. The Kansas City is responsible for keeping the review plan up to date. Minor changes to the review plan since the last approval are documented in Attachment 3. Significant changes to the review plan (such as changes to the scope and/or level of review) should be approved by NWD following the process used for initially approving the plan. Significant changes may result in NWD determining that use of the NWD Model Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-209.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Christina Ostrander, Project Manager/Planner 816 389 3143
- John Grothaus, john.j.grothaus@usace.army.mil, 816-389-3110
- Jeremy Weber, Jeremy.j.weber@usace.army.mil, 503-808-3858

ATTACHMENT 1: TEAM ROSTERS

PRODUCT DELIVERY TEAM (PDT)

Discipline	Name	Office Symbol/Agency	Telephone Number
Project Manager	Christina Ostrander	CENWK-PM-PF	816-389-3778
Project Manager, A-E Services PDT	John Plevniak	CDM Smith	816-412-3138
Environmental Resources Specialist	Richard Skinker	CENWK-PM-PF	816-389-3134
Cultural Resources	Tim Meade	CENWK-PM-PR	816-389-3138
Civil Engineer, A-E Services PDT	Natalie Postel	CDM Smith	816-412-3122
Geotechnical Engineer, A-E Services PDT	John Plevniak	CDM Smith	816-412-3138
Cost Estimator, A-E Services PDT	Matt Smith	CDM Smith	816-412-3139
Real Estate	Kevin Keller/Dan Marsh	CENWK-RE-C	816-389-3012
Economist	Allen Holland	CENWK-PM-PF	816-389-3105
GIS	Michael Dulin	CENWK-ED-S	816-389-2269

DISTRICT QUALITY CONTROL (DQC) TEAM

Discipline	Name	Office Symbol/Agency	Telephone Number
Plan Formulation	John Grothaus	PM-PF	816-389-3110
Environmental Resources Specialist	Glenn Covington	PM-PR	816-389-3141
Civil Engineer	Craig Weltig	ED-GC	816-389-3851
Hydraulic Engineer	William Otero	ED-HC	816-389-3727
Geotechnical Engineer	Glen Bellew	ED-GD	816-389-3553
Real Estate	Patty Richardson	RE-C	816-389-3744
Cost Estimator	Pat Miramontez	ED-DC	816-389-3322
Economist	E. Allen Holland	PM-PF	816-389-3105

ATR TEAM

Discipline	Name	Office Symbol/Agency	Telephone Number
ATR Lead & Plan Formulation	Richard Thomas	SWT-PE-P	918-669-7022
Environmental Resources Specialist	Patricia Newell	SWT-PE-P	918-669-4937
Civil Engineer	Jay Johnson	SWT-EC-DC	918-669-7055
Hydraulic Engineer	David Williams	SWT-EC-HM	918-669-7091
Geotechnical Engineer	Cory Williams	MVM	901-544-3291
Real Estate	Douglas Young	MVM	901-544-3154
Cost Estimator	Jim Neubauer	CENWW-EC-X	509-527-7332
Economist	Glenn Fulton	SWT-PE-P	918-669-7453

ATTACHMENT 2: STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Blacksnake Creek, St. Joseph, MO Section 205 Definite Project Report (DPR). The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks™.

Richard Thomas
ATR Team Leader
CESWT-PE-P

Date

Christina Ostrander
Project Manager
CENWK

Date

Jeremy Weber
Review Management Office Representative
CENWD

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

John J. Grothaus
Continuing Authorities Program Manager
CENWK-PM-P

Date

Jennifer L. Switzer
Chief, Planning Branch
CENWK-PM-P

Date

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NER	National Ecosystem Restoration
ASA(CW)	Assistant Secretary of the Army for Civil Works	NEPA	National Environmental Policy Act
ATR	Agency Technical Review	NHPA	National Historic Preservation Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
CWA	Clean Water Act	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement, and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Engineer Regulation	PL	Public Law
FDR	Flood Damage Reduction	POH	U.S. Army Corps of Engineers, Honolulu District
FEMA	Federal Emergency Management Agency	POD	U.S. Army Corps of Engineers, Pacific Ocean Division
FRM	Flood Risk Management	QMP	Quality Management Plan
FSM	Feasibility Scoping Meeting	QA	Quality Assurance
GRR	General Reevaluation Report	QC	Quality Control
HEP	Habitat Equivalency Protocol	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
ITR	Independent Technical Review	RTS	Regional Technical Specialist
IWR	Institute of Water Resources	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
NED	National Economic Development	WRDA	Water Resources Development Act